

REMARKS / DISCUSSION OF ISSUES

Claims 2-4, 6-10, and 12-20 are pending in the application.

The Examiner objects to the drawings for not illustrating the claimed test circuit. A replacement sheet is attached, replacing FIG. 2, and the specification is correspondingly amended herein. No new matter is added.

The applicants thank the Examiner for indicating that claims 6-10, 13-15, and 19-20 would be allowable if rewritten in independent form, including all limitations of the base claim and any intervening claims. The claims are correspondingly amended herein. No new matter is added, and the scope of the claims is unchanged.

The Office action rejects claim 2-4, 12, and 16-18 under 35 U.S.C. 103(a) over Takamura et al. (USPA 2004/0113798, hereinafter Takamura), Misawa et al. (USPA 2003/0160886, hereinafter Misawa), and Leis et al. (USPA 2006/0140846, hereinafter Leis). The applicants respectfully traverse this rejection.

The applicants respectfully maintain that one of skill in the art would have no apparent reason to combine Takamura, Misawa, and Leis in the fashion claimed in the applicants' claim 2, upon which claims 2-4, 12, and 16-18 depend. Further, even assuming in argument that one were to combine Takamura, Misawa, and Leis, the combination would not lead one to the applicants' invention.

Takamura teaches a life boat with a solar powered energy source, wherein the solar cells charge an arrangement of ultra-capacitors; the life boat has emergency lights, communications equipment, and so on. Takamura's emergency lights do not include the ultra-capacitors, and Takamura does not teach a test circuit.

Misawa teaches a digital camera, with a control circuit that controls the intensity of a strobe light based on measurements from a photosensor, by controlling the charge to the capacitor that provides the strobe pulse. Misawa does not teach an ultracapacitor, does not teach an emergency light, and does not teach a test circuit.

Leis teaches a method of producing porous carbon with enlarged micropores. Porous carbon is commonly used in to manufacture ultra-capacitors, and Leis discloses tests for characterizing the performance of such ultra-capacitors, for comparison with conventional ultra-capacitors. Leis does not teach an emergency light, does not teach including a test device for testing the ultra-capacitor in a system that uses the ultra-capacitor.

These widely divergent teachings have very little in common, and none of them address an emergency lighting device that includes an ultracapacitor.

In KSR Int'l. Co. v. Teleflex, Inc., the Supreme Court noted that the analysis supporting a rejection under 35 U.S.C. 103(a) should be made explicit, and that it is "important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements" in the manner claimed:

"Often, it will be necessary ... to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an **apparent reason** to combine the known elements in the fashion claimed by the patent at issue. To facilitate review, this analysis **should be made explicit**." KSR, 82 USPQ2d 1385 at 1396 (emphasis added).

The applicants respectfully maintain that the Office action fails to adequately provide an apparent reason that one of skill in the art would combine Takamura, Misawa, and Leis in the fashion claimed by the applicants.

The Examiner asserts that one of skill in the art would combine Takamura and Misawa "for advantages such as the ability to time the light emission". The applicants respectfully maintain that the ability to time the light emission of a strobe light in a camera to provide an image with proper brightness and contrast, as taught by Misawa, has no relevance or bearing on a power source for a life boat.

The applicants respectfully note that even if one of skill in the art were to combine Takamura and Misawa, the resultant combination would render Takamura's system unsuitable for its intended purpose. MPEP 2143 states:

"If the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification."

Misawa teaches controlling the charge on a capacitor of a strobe light; that is, the capacitor is charged to a particular level, then it is discharged through the strobe light, then recharged to another level, repeatedly. The controller provides repeated charge-discharge cycles, wherein the amount of charge is dependent upon the amount of light desired from the strobe light. Takamura teaches a power system for a life boat, and this power system is used for a variety of functions. Discharging Takamura's capacitors to provide power to an emergency strobe light would render Takamura's capacitors unsuitable for providing continuous power to the other devices, and charging Takamura's capacitors based on an amount of light desired from the strobe would also likely be unsatisfactory.

Contrary to the Examiner's asserted combination, if one of skill in the art were to combine Takamura and Misawa, one would provide an emergency strobe light with an integral separate strobe controller that is powered by a constant voltage from Takamura's power source, and this strobe light controller would not control the charging of Takamura's the ultra-capacitors in this power source.

Even assuming in argument that one were to combine Takamura and Misawa as asserted in the Office action, one of skill in the art would have no apparent reason for combining Leis' characterization test circuit with this combination. Neither Takamura nor Misawa teaches measuring an impedance of the source of energy for the lamp, and the fact that such a measurement is taken when a manufacturer characterizes an ultra-capacitor, as taught by Leis, does not provide an apparent reason for including such a test circuit in Takamura's light, as modified by Misawa.

The Office action asserts that one of skill in the art would be motivated to combine Leis with the combination of Takamura and Misawa "for advantages such as providing the ability to determine a series resistance of a capacitor". The applicants respectfully maintain that this assertion fails to provide an apparent reason that one of skill in the art would want to measure a series resistance of a capacitor in the combination of Takamura and Misawa. That is, the Examiner assumes that there is an apparent reason for determining a series resistance in the combination, then references Leis for teaching a test circuit that measures series resistance.

The Office action does not determine an apparent reason for forming the proposed combination, supported by an explicit analysis; the Office action merely provides a conclusory statement that some advantage would be gained by measuring a series resistance in the combination of Takamura and Misawa. The Office action does not identify any advantage that one of skill in the art would recognize by measuring the series resistance in the combination of Takamura and Misawa.

Leis' reason for using the test circuit to measure series resistance is to provide the characterization plot of Leis' FIG. 5. Neither Takamura nor Misawa would have an apparent reason to add the ability to provide Leis' characterization plot in their systems, or in the combination of their systems. Absent the applicants' teachings of the advantages provided based on a measured impedance of the ultra-capacitor in an emergency lamp, there is no apparent reason to incur the cost of including Leis' test circuit in a combination of Takamura and Misawa.

Because there is no apparent reason to combine Takamura, Misawa, and Leis, and because even if such a combination were formed as proposed, it would be unsuitable for its intended purpose, the applicants respectfully maintain that the rejection of claims 2-4, 12, and 16-18 under 35 U.S.C. 103(a) over Takamura, Misawa, and Leis is unfounded, and should be withdrawn.

In view of the foregoing, the applicants respectfully request that the Examiner withdraw the objection(s) and/or rejection(s) of record, allow all the pending claims, and find the application to be in condition for allowance. If any points remain in issue that may best be resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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